

IN THE CLAIMS:

Please amend the claims as set forth below:

1. (Currently Amended) A method for routing packets among a plurality of nodes in a computer system, the method comprising:

receiving a first response packet in a first node of said plurality of nodes, said first node comprising a plurality of control packet buffers, each of said plurality of control packet buffers assigned to a different one of a plurality of virtual channels; and

storing said first response packet in a response buffer which is one of said plurality of control packet buffers, said plurality of control packet buffers further including at least two additional control packet buffers corresponding to at least two additional virtual channels of said plurality of virtual channels, wherein said first response packet is a response to a first control packet belonging to one of said at least two additional virtual channels, and wherein said storing said first response packet in said response buffer is independent of which one of said at least two additional virtual channels said first control packet belongs to;

receiving a second response packet in said first node, said second response packet a response to a second control packet belonging to a different one of said at least two virtual channels from said first control packet; and

storing said second response packet in said response buffer.

2. (Cancelled)

3. (Original) The method as recited in claim 1 wherein said at least two additional virtual channels include a non-posted command virtual channel.

4. (Original) The method as recited in claim 3 wherein said at least two additional virtual channels further include a probe virtual channel.

5. (Original) The method as recited in claim 1 further comprising:

receiving a first data packet specified by said first response packet; and

storing said first data packet in a response data buffer, which is one of a plurality of data buffers included in said first node, said response data buffer assigned to said response virtual channel.

6. (Original) The method as recited in claim 5 further comprising:

receiving a second response packet in said first node, said second response packet a response to a second control packet belonging to a different one of said at least two virtual channels from said first control packet;

storing said second response packet in said response buffer;

receiving a second data packet specified by said second response packet; and

storing said second data packet in said response data buffer.

7. (Original) The method as recited in claim 1 further comprising generating said first control packet in said first node.

8. (Original) The method as recited in claim 7 further comprising allocating space to process a plurality of response packets corresponding to said first control packet prior to transmitting said first control packet, said plurality of response packets including said first response packet.

9. (Original) The method as recited in claim 8 wherein said generating said first control packet comprises generating a probe packet in response to a second control packet received by said first node.

10. (Previously Presented) A computer system comprising:

a first node configured to transmit a first response packet; and

a second node coupled to receive said first response packet from said first node,
wherein said second node comprises:

a response buffer assigned to a response virtual channel;

a first control packet buffer assigned to a first virtual channel different
from said response virtual channel; and

a second control packet buffer assigned to a second virtual channel
different from said response virtual channel and said first virtual
channel;

wherein said response packet is a response to a first control packet
belonging to one of said first virtual channel and said second virtual channel, and
wherein said second node is configured to store said first response packet in said
response buffer independent of which of said first virtual channel and said second
virtual channel to which said first control packet belongs, and wherein said
second node further comprises a response data buffer configured to store response
data packets specified by response packets, and wherein said first node is
configured to transmit a first response data packet specified by said first response
packet, and wherein said second node is configured to store said first response
data packet in said response data buffer.

11. (Original) The computer system as recited in claim 10, wherein said first node is configured to transmit a second response packet to said second node in response to a second control packet belonging to a different one of said first virtual channel and said second virtual channel from said first control packet, and wherein said second node is configured to store said second response packet in said response buffer.

12. (Original) The computer system as recited in claim 10 wherein said first virtual channel is a non-posted command virtual channel and said second virtual channel is a probe virtual channel.

13. (Cancelled)

14. (Previously Presented) The computer system as recited in claim 10 wherein said first node is configured to transmit a second response packet to said second node in response to a second control packet belonging to a different one of said first virtual channel and said second virtual channel from said first control packet, and wherein said second node is configured to store said second response packet in said response buffer, and wherein said first node is configured to transmit a second response data packet specified by said second response packet, and wherein said second node is configured to store said second response data packet in said response data buffer.

15. (Original) The computer system as recited in claim 10 wherein said second node is configured to generate said first control packet.

16. (Original) The computer system as recited in claim 15 wherein said second node is configured to allocate a buffer to store processed data from processing a plurality of response packets corresponding to said first control packet, said second node configured to allocate said buffer prior to transmitting said first control packet, and wherein said plurality of response packets includes said first response packet.

17. (Original) The computer system as recited in claim 16 wherein said first control

packet comprises a probe packet generated in response to a second control packet received by said second node.

18. (Cancelled)

19. (Currently Amended) A computer system comprising:

a first node configured to transmit a first command packet in a first virtual channel of a plurality of virtual channels; and

a second node coupled to receive said first command packet, wherein said second node is configured to generate a first response packet in response to said first command packet and is further configured to transmit said first response packet using a response virtual channel of said plurality of virtual channels independent of which one of said plurality of virtual channels is said first virtual channel, and wherein the first node is configured to transmit a second command packet in a second virtual channel of the plurality of virtual channels, and wherein the second node is coupled to receive the second command packet and is configured to generate a second response packet in response to the second command packet, and wherein the second node is configured to transmit the second response packet in the response virtual channel.

20. (Cancelled)

21. (Previously Presented) The computer system as recited in claim 19 wherein the plurality of virtual channels includes a non-posted command virtual channel and a probe virtual channel.

22. (Previously Presented) The computer system as recited in claim 19 wherein the first response packet specifies a first response data packet, and wherein the second node is configured to transmit the first response data packet in the response virtual channel.

23. (Previously Presented) The computer system as recited in claim 19 wherein the first node is configured to allocate resources to process one or more response packets corresponding to the first command packet prior to transmitting the first command packet, wherein the one or more response packets includes the first response packet.

24. (Previously Presented) A node comprising:

one or more response buffers assigned to a response virtual channel;

one or more first control packet buffers assigned to a first virtual channel different from said response virtual channel; and

one or more second control packet buffers assigned to a second virtual channel different from said response virtual channel and said first virtual channel;

wherein, in response to receiving a first response packet that is a response to a first control packet belonging to one of said first virtual channel and said second virtual channel, the node is configured to store said first response packet in said response buffers independent of which of said first virtual channel and said second virtual channel to which said first control packet belongs, and wherein said node further comprises one or more response data buffers configured to store response data packets specified by response packets, and wherein, in response to receiving a first response data packet specified by said first response packet, said node is configured to store said first response data packet in said response data buffers.

25. (Previously Presented) The node as recited in claim 24 wherein said node, in response to receiving a second response packet that is a response to a second control

packet belonging to a different one of said first virtual channel and said second virtual channel from said first control packet, is configured to store said second response packet in said response buffers.

26. (Previously Presented) The node as recited in claim 24 wherein said first virtual channel is a non-posted command virtual channel and said second virtual channel is a probe virtual channel.

27. (Cancelled)

28. (Previously Presented) The node as recited in claim 24 wherein in response to receiving a second response packet received in response to a second control packet belonging to a different one of said first virtual channel and said second virtual channel from said first control packet, said node is configured to store said second response packet in said response buffers, and wherein, in response to receiving a second response data packet specified by said second response packet, said node is configured to store said second response data packet in said response data buffers.

29. (Previously Presented) The node as recited in claim 24 wherein said node is configured to generate said first control packet.

30. (Previously Presented) The node as recited in claim 29 wherein said node is configured to allocate a buffer to store processed data from processing a plurality of response packets corresponding to said first control packet, said node configured to allocate said buffer prior to transmitting said first control packet, and wherein said plurality of response packets includes said first response packet.

31. (Previously Presented) The node as recited in claim 30 wherein said first control packet comprises a probe packet generated in response to a second control packet received by said node.

32-35 (Cancelled)

36. (New) A node configured to implement a plurality of virtual channels for communicating with other nodes, wherein one of the plurality of virtual channels is a response virtual channel, the node comprising circuitry that is configured to transmit response packets in the response virtual channel, the response packets generated by the node in response to packets in any of the plurality of virtual channels that are defined to cause a response packet.

37. (New) The node as recited in claim 36 wherein the node comprises a plurality of control packet buffers, each of the control packet buffers assigned to one of the plurality of virtual channels, wherein the circuitry is configured to store the response packets in one of the plurality of control packet buffers assigned to the response virtual channel.

38. (New) The node as recited in claim 37 wherein at least some of the response packets specify corresponding data packets, and wherein the node comprises a plurality of data buffers include a response data buffer, and wherein the node is configured to store the corresponding data packets in the response data buffer.

39. (New) The node as recited in claim 36 wherein at least some of the response packets specify corresponding data packets, and wherein the node is configured to transmit the corresponding data packets in the response virtual channel.

40. (New) The node as recited in claim 36 wherein packets that are defined to cause a response packet comprise non-posted command packets.

41. (New) The node as recited in claim 40 wherein non-posted command packets comprise read command packets and write command packets.

42. (New) The node as recited in claim 36 wherein packets that are defined to cause a response packet comprise probe packets.

43. (New) A computer system comprising a plurality of nodes configured to communicate using a plurality of virtual channels, wherein one of the plurality of virtual channels is a response virtual channel, wherein a first node of the plurality of nodes is configured to transmit response packets in the response virtual channel, the response packets generated by the first node in response to receiving packets from other ones of the plurality of nodes in any of the plurality of virtual channels, the response packets generated by the first node in response to packets that are defined to cause a response packet.

44. (New) The computer system as recited in claim 43 wherein at least some of the response packets specify corresponding data packets, and wherein the first node is configured to transmit the corresponding data packets in the response virtual channel.

45. (New) The computer system as recited in claim 43 wherein packets that are defined to cause a response packet comprise non-posted command packets.

46. (New) The computer system as recited in claim 45 wherein non-posted command packets comprise read command packets and write command packets.

47. (New) The computer system as recited in claim 43 wherein packets that are defined to cause a response packet comprise probe packets.

48. (New) The computer system as recited in claim 43 wherein a second node, prior to transmitting a first packet in one of the plurality of virtual channels, is configured to allocate space to store a plurality of response packets that are to be generated in response to the first packet.